

REMARKS:

Applicant thanks the Examiner for his attention to the application.

All the claims are rejected under 35 U.S.C. Section 112 because the Examiner believes that there is no disclosure of disabling the freewheeling diodes for regenerative braking of the traction motor.

Respectfully the freewheeling diode 11 is shown in all of the figures as a thyristor, which must have a specific gate signal applied thereto in order to conduct and provide the freewheeling diode effect. Thus, diode 11 is, in the absence of a gate signal, disabled.

Enabling (switching on) the diode 11 to provide for freewheel current when required is discussed at paragraphs 61 and 62. Specific situations in which gating signals are provided for the freewheeling diode 11 are discussed at paragraph 65 and Figures 2A and 2B show how the selective enabling of freewheeling diode 11 affects the line current. This is described at paragraphs 67 through 70.

Paragraph 96 and the associated table show the conditions in which the freewheeling diode 11 is turned on and off respectively.

The rejection of claims 1 through 35 under 35 U.S.C. Section 112 is respectfully traversed.

All of the claims are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Franz Jr. Patent No. U.S. 4,471,277 and Slagle Patent No. U.S. 4,549,119. Respectfully, neither of these references disclose Applicant's invention or render it obvious.

Franz relates to a motor controller but the freewheeling diode 20 in Franz is a conventional diode, which is always "on" when the current flows in the right direction. There is nothing in Franz that permits freewheeling diode 20 to be disabled or to take it out of the circuit. Unlike an SCR, which is used as a freewheeling diode in Applicant's invention, Franz's diode 20 always conducts in the forward direction when a signal is applied and no gating signal is necessary to enable it. Franz's diode 20 is not a controllable freewheeling diode as claimed and Franz does not provide a braking controller for disabling the freewheeling diode at any time. These limitations are present in claims 1 through 16 and in claims 24 through 27.


Slagle does not teach that which is missing from Franz. The Examiner relies on Slagle for its teaching of an AC power supply and never suggests that Slagle does not teach a

controllable free-wheeling diode or a breaking controller for disabling the diode during regenerative breaking of the motor.

Claims 17 through 35 are also rejected over the same two references but the Examiner never explains where in either of the references there is any suggestion to provide a mode-switcher for connecting two DC traction motors to the output of a solid state power converter in series in a first mode and in circulating-current-free armature parallel configuration in a second mode. Claims 36 through 43 include this same limitation, which is not found in either Franz or Slagle.

Each of the grounds for rejection having been addressed, reconsideration and favorable action are requested.

Respectfully submitted,



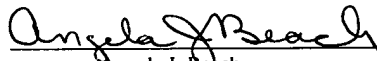
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